

UK Biotechnology Sector

Strengths and Weaknesses A view from The City

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Agenda

- ◆ What is biotechnology ?
- ◆ Research versus Development
- ◆ Time horizons
- ◆ Disclosure issues
- ◆ Initial Public Offerings (IPOs)
- ◆ Some questions

What is biotechnology?

- ◆ Biologics are drugs derived from substances naturally present in living organisms
 - E.g. vaccines, blood products, hormones, growth factors, antibodies

- ◆ “Biotechnology” companies can be
 - Profitable, fully-integrated protein drug companies
 - **Development stage/research platform companies**
 - **May be developing vaccines, protein drugs, small molecules**
 - **Tools/service providers**

The UK Healthcare sector

HEALTH

AbbottLb \$.....	£243 ³ / ₄	-3.3	\$1.10	1.9	38,841	13.4	1989
BIOQUELL.....	♣ 121	7.1	-	-	48.0	-	3114
Bespak.....	♣ 527 ¹ / ₂	0.5	19.1	1.7	141.4	26.1	1818
Biocmpt.....	216 ¹ / ₂	-1.8	-	-	86.5	-	5081
Biotrace.....	90x	2.9	1.4	φ	35.0	13.4	3373
Care UK.....	♣ 412 ¹ / ₂	-1.2	3.05	5.0	209.5	5.1	1610
Celsis Int.....	♣ 35	.....	008%	7.3	39.2	28.7	2572
Corin.....	361 ¹ / ₂	7.4	1.38	φ	147.2	29.9	-
Ferraris.....	89	-3.3	5.8	0.3	44.3	22.12	4091
Genetix.....	54	5.9	-	-	38.7	-	5629
Gynus.....	♣ 272	-2	-	-	227.3	-	2665
Huntlgh.....	377 ¹ / ₂	-1.7	7.0	φ	190.3	10.11	2946
Inion Oy.....	175	4.5	-	-	128.2	-	-
Isotron.....	♣ 582 ¹ / ₂	-2.9	9.96	3.4	123.9	16.3	3007
MedSits.....	6 ³ / ₄	.....	-	-	13.2	9'98	4450
Medisys.....	♣ 31 ¹ / ₄	1.5	-	-	17.3	-	4486
NestorH.....	q 146	-8	1.5	4.2	127.9	5.5	4595
ReedHth.....	♣‡ 44	1.1	1.62	-	14.4	17.11	1031
Shiloh.....	‡ 100 ¹ / ₂	1.0	3.85	-	6.75	26.5	4011
SmithNph.....	526 ¹ / ₂	1.2	5.1	3.1	4,941	20.4	4043
UtdDrug.....	244 ¹ / ₂	-2.4	4.8c	φ	531.7	1.12	1261
Whatman.....	248x	-1.1	4.61	φ	316.7	20.4	4483

Source: Financial Times



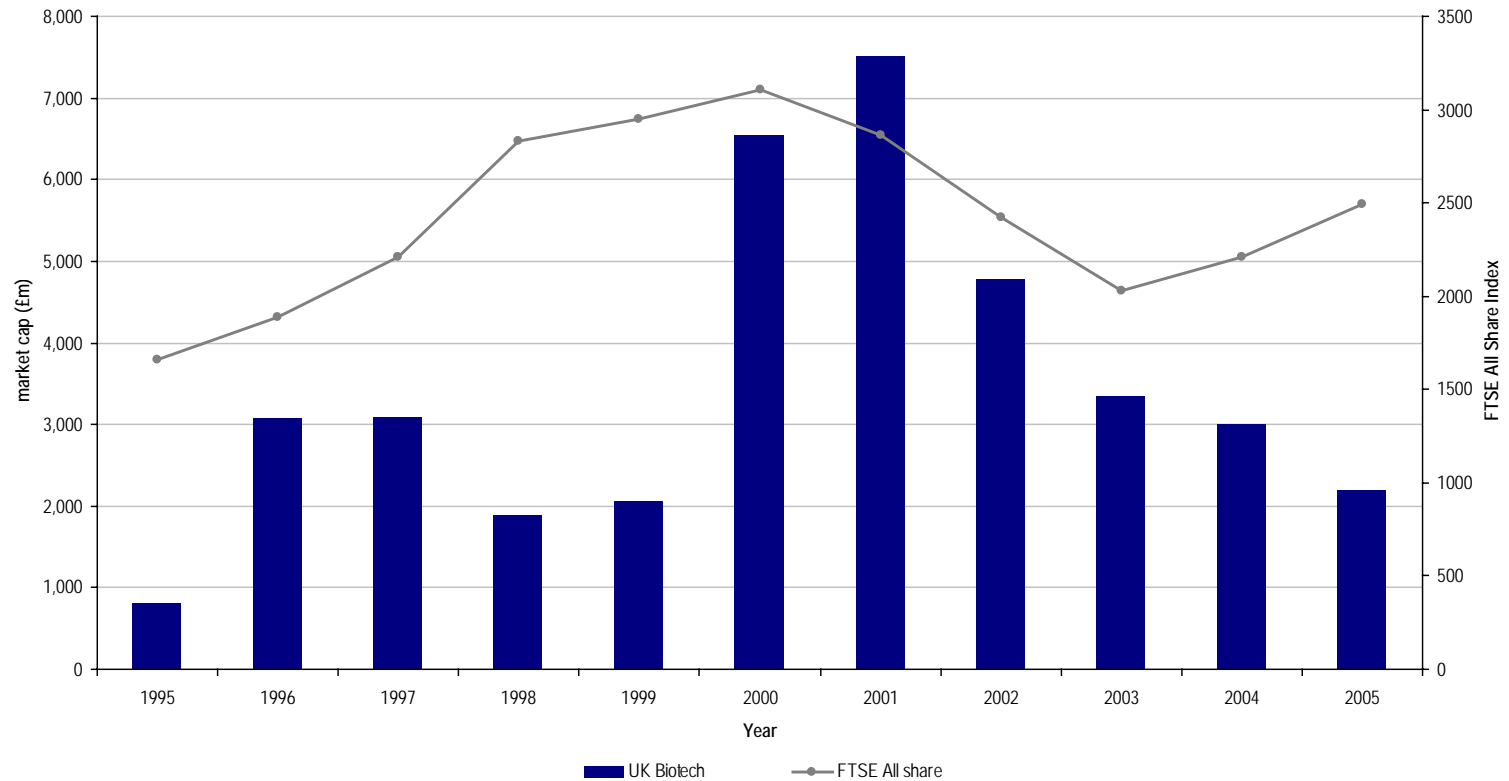
PHARMACEUTICALS & BIOTECH

Acambis.....	220	-5.6	-	-	235.9	-	2064
AkersBio.....	47 ¹ / ₂	4.4	-	-	21.5	-	2432
Alizyme.....	♣ 99 ¹ / ₂	-14.2	-	-	144.2	-	1776
Antisoma.....	♣ 23 ¹ / ₂	8.0	-	-	78.2	-	3161
Ardana.....	116 ¹ / ₂	-1.3	-	-	64.7	-	-
Ark Thera.....	124	0.8	-	-	156.5	-	-
AstraZen	♣‡ 2261	-1.0	50.3	2.2	36,927	9.2	2966
Axis-Shd.....	♣ 290	9.4	-	-	140.7	-	3629
CambAnti.....	603	-3.7	-	-	311.1	-	1096
Dechra.....	♣‡ 206 ¹ / ₂	-1.4	4.85	2.5	105.4	9.3	5461
Elan €.....	206 ¹ / ₄	-6.7	-	-	816.5	-	2758
GeneMedx.....	8	-4.5	-	-	27.3	-	5672
GlaxoSmh	♣‡ 1223	-3.3	42.0	1.7	71,595	16.2	5694
Goldshld.....	‡ 279	-4	4.0	1.8	103.4	15.12	2866
Lilly (E) \$.....	£30 ¹ / ₂	-1.3	0\$1.52	1.1	34,449	16.2	5310
ML Labs.....	♣ 18 ³ / ₄	-5.1	-	-	42.9	-	4578
NovoB Dkr.....	£31 ¹ / ₂	1.1	0240%	φ	9,394	16.3	-
Oxfid Bio.....	♣ 30 ³ / ₄	9.8	-	-	114.6	-	2043
PLIVA \$.....	£6 ³ / ₂	3.3	45.28c	-	113.6	5'3	-
Pharmgne.....	♣ 27 ³ / ₄	4.7	-	-	14.9	-	4025
Phytophm.....	♣ 134	-1.5	-	-	57.8	-	2756
Prothrcs.....	♣ 49 ¹ / ₂	.....	-	-	119.0	-	2551
Provalis.....	5 ¹ / ₂	-2.3	-	-	19.2	-	4505
RichterG \$.....	£67 ¹ / ₂	-8.3	0\$2.09	-	1,252	9.6	-
ShirePhm	♣ 539	-11.8	3.0	10.7	2,634	16.3	1219
SinclrPhm.....	132 ¹ / ₂	8.2	-	-	74.3	-	-
SkyePhm.....	51	-6.4	-	-	321.0	11'89	4323
Theratse.....	♣ 39	-2.5	-	-	14.0	12'94	2828
Vernalis.....	71	-7	-	-	141.3	-	2619
XTL Bio.....	37 ¹ / ₂	-3.8	-	-	63.0	-	4834
Xenova.....	4 ¹ / ₄	-6.0	-	-	18.7	-	2167

Biotechnology in a UK context

- ◆ The UK pharma & biotech sector (excluding AIM-listed companies) consists of 48 primary listed companies combined market capitalisation ~ £125 billion
- ◆ 2 ethical pharmaceutical companies = ~90% total market capitalisation
 - I.e AstraZeneca (30%) and GlaxoSmithKline (58%)
- ◆ **> 20 can be described as biotechnology companies, total market capitalisation ~£2bn**
- ◆ 21 other healthcare companies in a variety of areas
- ◆ This excludes AIM-listed companies

Evolution of the UK biotech sector



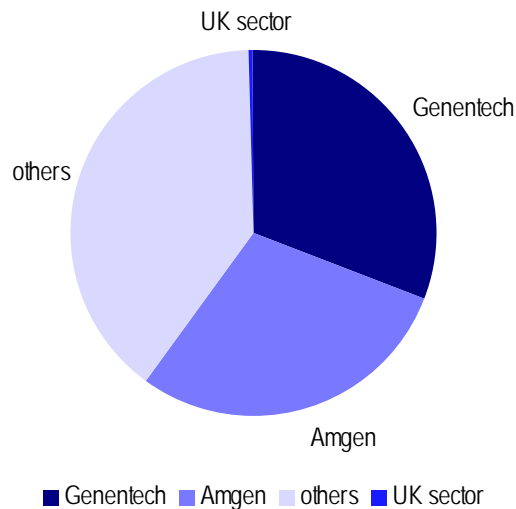
UK Biotech defined as: ACAMBIS, ALIZYME, ANTISOMA, BIOPROJECTS INTL., BIOFOCUS, BIOPROJECTS INTL., CAMBRIDGE ANTIBODY TECH., CELLTECH GROUP DELIST 10/08/04, CENES PHARMACEUTICALS, COBRA BIO MANUFACTURING, CYPROTEX, CYTOMYX HOLDINGS, FULCRUM PHARMA. GENEMEDIX, GW PHARMACEUTICALS, ML LABORATORIES, NEUTEC PHARMA, OXFORD BIOMEDICA, OXFORD GLYCOSCIENCES DEAD 21/07/03, PHARMAGENE, PHYTOPHARM, PROTEOME, POWDERJECT PHARMS. DEAD 05/08/03, PROTHERICS, PROVALIS, SKYEPHARMA, SR PHARMA , THERATASE, TRANXENOGEN, VERNALIS, XENOVA GROU, XTL BIOPHARMACEUTICALS

Source: Datastream



The global biotechnology sector

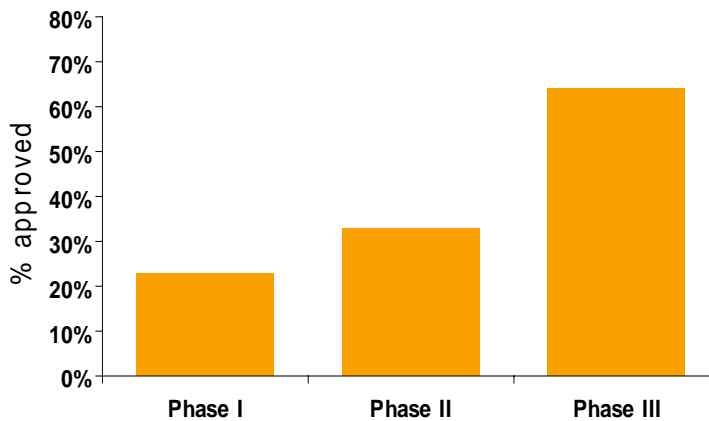
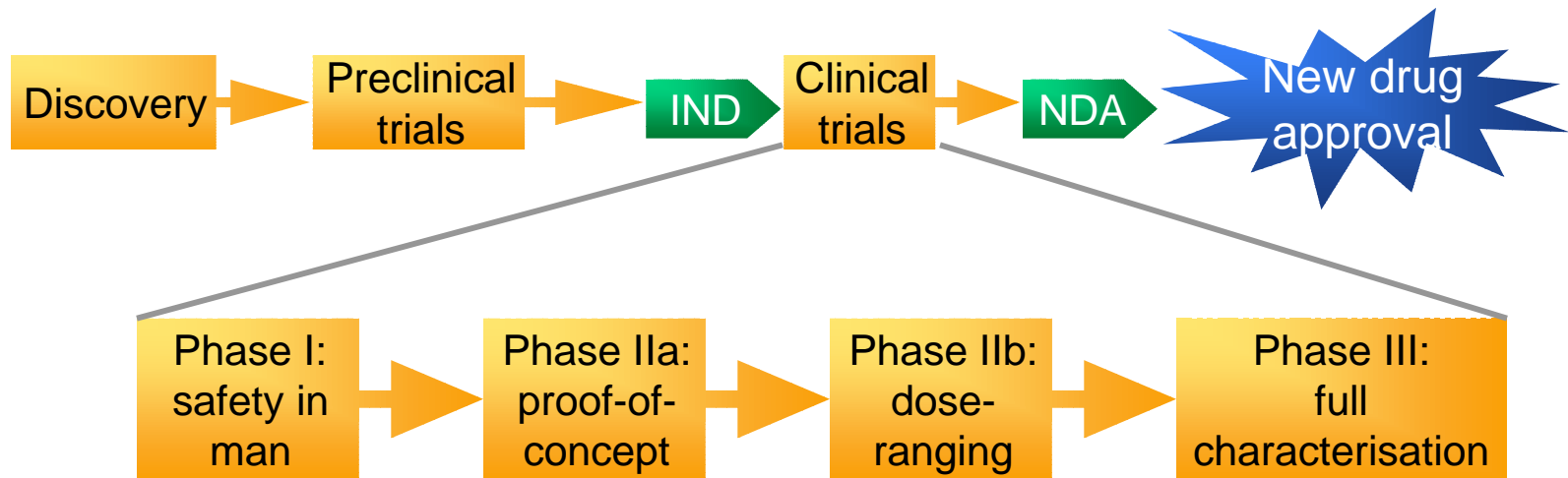
- ◆ The number of fully integrated protein drug manufacturers is low ... but they make up the bulk of the industry's sales and market cap
 - Huge bias towards US



- ◆ The total market capitalisation of UBS's biotech covered universe is some US\$278bn
 - This includes >40 companies
 - The top two (Amgen, Genentech) contribute >50%,
 - Total market capitalisation of all UK companies <2% of total

Research versus Development

The path to approval



Research strengths but development weakness

- ◆ Recognition of “pockets of high quality research” in the UK
- ◆ BUT the perception is that “the industry has largely failed to develop commercially significant drugs successfully”
- ◆ Europe-wide there is only ~ 25% success rate of drugs developed by biotech sector in phase III clinical trials reaching market
- ◆ Only one blockbuster drug has originated from UK biotech sector – Humira

Time horizons

Time horizons – a disconnect

- ◆ It takes 5-10 years to develop a drug through clinical trials to market
 - Target discovery, drug discovery and pre-clinical development can double that time yet

- ◆ View from the sell-side
 - recommendations on a 12-month view typically
 - a legal requirement

- ◆ View from the buy-side
 - “ a fiduciary duty to deliver a return in a reasonable timeframe”
 - typically 1 year, can be much shorter, very rarely it extends to 4 years

Disclosure Issues

Disclosure issues

- ◆ Three main areas where investors need information
- ◆ Clinical trials
 - There should be as full as disclosure as possible of both successful and unsuccessful trials
- ◆ Discussions with drug regulatory authorities
 - Value of biotech companies driven by stage of clinical development their drugs are in
 - Yet limited disclosure of regulatory discussions with US FDA, EMEA, UK MCA
 - Drug regulatory authorities do not like others to make such discussions public
 - Financial regulators need to engage drug regulators directly
- ◆ Marketing/licensing deals
 - UK companies are under no obligation to disclose details of deals
 - “commercial sensitivity” is the issue
 - Yet US-listed companies have to file details of deals with SEC
 - Sensitive financial details do not have to be disclosed publically

Raising money. IPOs and follow-on offerings

The UK IPO market/secondary financing

- ◆ Big difference between investment time horizon (0-4 years) and drug development time (5-10 years)
- ◆ Drug development is expensive!
- ◆ High risk sector BUT information disclosure is limited
- ◆ If investors cant make money out of IPOs they won't invest
 - Recent UK IPOs have traded down/not happened
- ◆ AIM market has proved an outlet for some fund raising

Some Questions

- ◆ Why has the UK biotechnology sector not been more successful at clinical drug development/commercialisation?
- ◆ Can the disparate time horizons of institutional investors and companies be reconciled?
- ◆ Can we improve information disclosure?
- ◆ Can “big pharma” help?
- ◆ Can the biotechnology fund-raising be made more appealing to institutional investors?
- ◆ To what extent should biotech initiatives be pan-European?
- ◆ Would paying more for innovative drugs to meet real clinical needs benefit the UK biotech sector?
- ◆ Would encouraging M&A help foster a more successful biotech sector?

Companies Mentioned

Companies mentioned

Company Name	Reuters	Rating	Price	Price date/time
Acambis ¹⁶	ACM.L	Buy 2	218p	25 Apr 2005 21:09 BST
Alliance UniChem	AUN.L	Neutral 1	788p	25 Apr 2005 21:09 BST
AstraZeneca ^{2,16}	AZN.L	Neutral 2 (RRD)	2,255p	25 Apr 2005 21:09 BST
Cambridge Antibody ¹⁶	CAT.L	Buy 2	600p	25 Apr 2005 21:09 BST
GlaxoSmithKline ¹⁶	GSK.L	Neutral 1	1,224p	25 Apr 2005 21:09 BST
Nestor Healthcare ^{4a,14}	NSR.L	Buy 2	146p	25 Apr 2005 21:09 BST
Shire Pharmaceutical ^{4a,16}	SHP.L	Neutral 1	542p	25 Apr 2005 21:09 BST
Smith & Nephew ^{4b,16}	SN.L	Buy 2	525p	25 Apr 2005 21:09 BST
Whatman ^{4a,14}	WHM.L	Buy 2	245p	25 Apr 2005 21:09 BST
Zeltia S.A.	ZEL.MC	Reduce 2	€6.58	25 Apr 2005 21:09 BST

Source: UBS. BST: British summer time.

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UBS rating	Definition	UBS rating	Definition	Rating category	Coverage ¹	IB services ²
Buy 1	FSR is > 10% above the MRA, higher degree of predictability	Buy 2	FSR is > 10% above the MRA, lower degree of predictability	Buy	37%	30%
Neutral 1	FSR is between -10% and 10% of the MRA, higher degree of predictability	Neutral 2	FSR is between -10% and 10% of the MRA, lower degree of predictability	Hold/Neutral	52%	32%
Reduce 1	FSR is > 10% below the MRA, higher degree of predictability	Reduce 2	FSR is > 10% below the MRA, lower degree of predictability	Sell	11%	25%

1: Percentage of companies under coverage globally within this rating category.

2: Percentage of companies within this rating category for which investment banking (IB) services were provided within the past 12 months.

Source: UBS; as of 31 March 2005.

KEY DEFINITIONS

Forecast Stock Return (FSR) is defined as expected percentage price appreciation plus gross dividend yield over the next 12 months.

Market Return Assumption (MRA) is defined as the one-year local market interest rate plus 5% (an approximation of the equity risk premium).

Predictability Level The predictability level indicates an analyst's conviction in the FSR. A predictability level of '1' means that the analyst's estimate of FSR is in the middle of a narrower, or smaller, range of possibilities. A predictability level of '2' means that the analyst's estimate of FSR is in the middle of a broader, or larger, range of possibilities.

Under Review (UR) Stocks may be flagged as UR by the analyst, indicating that the stock's price target and/or rating are subject to possible change in the near term, usually in response to an event that may affect the investment case or valuation.

Rating/Return Divergence (RRD) This qualifier is automatically appended to the rating when stock price movement has caused the prevailing rating to differ from that which would be assigned according to the rating system and will be removed when there is no longer a divergence, either through market movement or analyst intervention.

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US Closed-End Fund ratings and definitions are: Buy: Higher stability of principal and higher stability of dividends; Neutral: Potential loss of principal, stability of dividend; Reduce: High potential for loss of principal and dividend risk.

UK and European Investment Fund ratings and definitions are: Buy: Positive on factors such as structure, management, performance record, discount; Neutral: Neutral on factors such as structure, management, performance record, discount; Reduce: Negative on factors such as structure, management, performance record, discount.

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